

NewsRelease

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NASA LANGLEY FORECAST

From caves, clouds, bumps to gene therapy

Looking for a bumpy ride. Pilots usually try to avoid bad weather, but this spring the crew of NASA Langley Research Center's 757 flying laboratory will go hunting for storms. Researchers will be looking for turbulence associated with convective activity. They are testing a Doppler radar system that can detect bumpy air before a plane encounters it. Also, during the flights, NASA will test components of a "weather channel" in the cockpit and a satellite datalink system.

For more information, call Kathy Barnstorff 757/864-9886 or email k.a.barnstorff@larc.nasa.gov

Instrument will help forecast climate changes. As part of a long-term effort to understand our home planet, a NASA Langley instrument will soon be launched to study clouds and their effects on heating and cooling of the Earth. The Clouds and the Earth's Radiant Energy System (CERES) instrument is scheduled to launch aboard the Earth Observing System (EOS) Aqua spacecraft from Vandenberg Air Force, Calif. Scientists will use the data, sensed from high above the Earth, to observe energy exchange between the sun; the Earth's atmosphere, surface and clouds; and outer space. CERES is one of six instruments aboard Aqua that will contribute to better understanding of global climate change. Together, they will help in the effort to identify natural and human causes of climate change and develop models for long-term forecasting. Aqua will fly in an orbit that covers the globe every 16 days for a six-year mission.

For more information, call Chris Rink at 757/864-6786 or email c.p.rink@larc.nasa.gov

"Home Educators Weekend" packed with family fun April 12-14. NASA Langley's Office of Education partners with Busch Gardens Williamsburg for a three-day weekend of games, crafts, displays and educational activities. While NASA Langley researchers share their excitement about math, science and technology, education specialists will answer challenging questions and explain scientific concepts. Activities range from wind tunnel demonstrations, junior astronaut training and paper airplane contests to rides and exotic wildlife.

For more information, call Kimberly W. Land at 757/864-9885 or email k.w.land@larc.nasa.gov

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In 'CAVE,' researchers explore living safely in space. Researchers at NASA Langley can float in space hundreds of miles above the Earth next to the International Space Station. They can even venture inside. At least that's the way it seems in the virtual reality environment of the CAVE, an Immersive Design and Simulation Lab at the research center. The lab -- which projects three-dimensional images in a darkened room -- uses high-performance computing, graphics and audio rendering to help researchers perform radiation and acoustic studies to better protect astronauts while living aboard the Station. Other researchers, at remote locations, can be in their own facility and see the same thing at the same time. In this collaborative virtual environment, engineers can quickly and effectively determine areas that need improvement for crew safety and comfort.

For more info or images, call Ivelisse Gilman at 757/864-5036 or email i.gilman@larc.nasa.gov

Speaker series:

April 2 – Is there a limit to growth and development on our planet? Dr.

Thomas Lovejoy, chief biodiversity officer at the World Bank, believes that the answer impacts both society and the environment on local, regional and global scales.

Sustainable development has been a central goal for society since the World Commission on Environment and Development (the "Brundtland Commission") in 1987 and the United Nations Conference on Environment and Development (the "Earth Summit") in Rio de Janeiro in 1992. Ten years since the latter, there still is a need to better understand what sustainable development really means. The presentation will center on this effort and the contributions remote sensing can make to sustainable development.

For more information, call Kimberly W. Land at 757/864-9885 or email k.w.land@larc.nasa.gov

May 7 - Take this gene and call me in the morning. Dr. Francis Macrina, microbiology professor, Virginia Commonwealth University, Richmond, Va, will focus on the impact of the human genome project on the emerging technology of gene therapy. Living cells encode the instructions for everything they do in long, tape-like molecules called deoxyribonucleic acid, or DNA for short. Recently, the much-heralded human genome project presented a nearly complete version of that instruction manual. This event launched what some call the century of biology, and this nascent knowledge of the human genome is accompanied by unprecedented opportunities to probe deeply into cell and molecular biology, to diagnose, understand, and treat diseases and to genetically engineer life forms. Ethical, legal and social challenges abound.

For more information, call Kimberly W. Land at 757/864-9885 or email k.w.land@larc.nasa.gov

June 4 - Shock waves on aircraft structure and aviation security. Presented by Gary Settles of Penn State University.

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